DOCUMENT RESUME

ED 171 466 RC 011 380

AUTHOR Jones, Orville E., Ed.; Swan, Malcolm D., Ed.
TITLE A Model for Introducing Environmental Quality Education into a School Curriculum. Taft Campus Occasional Paper No. VII.
INSTITUTION Northern Illinois Univ., Oregon. Laredo Taft Field Campus. Dept. of Outdoor Teacher Education.
PUB DATE 72
NOTE 45p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Citizen Participation; Community Cooperation; Community Support; *Curriculum Development; Educational Quality; Elementary Secondary Education; *Environmental Education; Higher Education; *Instructional Programs; *Outdoor Education; Parent Participation; Parent Teacher Cooperation; Public Schools; Recycling; *Relevance (Education); Student Participation; Student Projects
IDENTIFIERS Glencoe Environmental Education Curriculum; *Illinois (DuPage County); Parent Teacher Association

ABSTRACT

At a meeting in DuPage County, Illinois, in April 1972, speakers representing the PTA, students, school teachers and administrators, outdoor education, the Illinois School Boards Association, and the Open Lands Project voiced enthusiastic support for introducing environmental education into the school curriculum. One of the County's several college, secondary, and elementary level environmental programs described in the meeting, the Glencoe (Illinois) Environmental Education Curriculum was designed to develop environmental consciousness and social responsibility through an integrated curriculum approach for grades K-8. The program's initial success was partly due to the fact that it involved all sectors of the community in its activities which included the establishment and maintenance of a glass recycling center, largely the work of students and the PTA. Speakers advocated such citizen participation in environmental education as well as the reassessment of educational priorities to make education accountable to an environmentally responsible society. (SB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Donald R. Hammerness
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

- ED171466

A Publication of

The Department of Outdoor Teacher Education

NORTHERN ILLINOIS UNIVERSITY
AT TAFT CAMPUS, OREGON, ILLINOIS

RC 01 13 80

TAFT CAMPUS OCCASIONAL PAPER NO. VII

A MODEL FOR INTRODUCING ENVIRONMENTAL QUALITY EDUCATION INTO A SCHOOL CURRICULUM

Co - Edited by

Orville E. Jones &
Malcolm D. Swan

1972

Taft Campus Occasional Papers provide a means of sharing professional documents prepared primarily in connection with the on-going program in the Department of Outdoor Teacher Education, Northern Illinois University, but which may be more useful if given a wider distribution. Unless otherwise noted, they are not copyrighted.

F O R E W O R D

There exists, perhaps, no more important a responsibility and challenge for our schools and our educational system in Illinois than that of Environmental Education

> "The basic causes of our environmental troubles are complex and deeply imbedded . . ."
>
> "We must seek nothing less than a basic reform in the way society looks at problems and makes decisions . . ."
>
> "Our educational system has a key role to play in bringing about this reform . . ."
>
> "It is also vital that our entire society develop a new understanding and a new awareness of man's relation to his environment--what might be called "environmental literacy! This will require the development and teaching of environmental concepts at every point in the educational process."
>
> Richard Nixon
> (From the President's introduction to the First Annual Report of the Council on Environmental Quality, August, 1970.)

The concern about introducing such programs into the schools resulted in an evening program in DuPage County, Illinois in April, 1972, in which an attempt was made to hear the points of view of schoolboard members, administrators, teachers, students and environmentalists. This meeting was jointly sponsored by the Superintendent of the Educational Service Region, Dr. Merrill Gates, School Administrators in DuPage County, School District Personnel and the Environmental Education Committee of Northern Illinois University. Dr. Orville Jones of the Department of Outdoor Teacher Education at Northern Illinois University accept responsibility for organizing, conducting this meeting and for developing these proceedings.

The speakers at this meeting, some of whom came from a long distance away from DuPage County, donated their time and services and provided the copies of their presentations of which this Occasional Paper is constituted.

Malcolm Swan, Chairman
NIU Environmental Education Committee

"Citizen Reaction To School's Environmental Education Program" - Mrs. Richard Hart
Chairman, PTA Environmental Affairs Committee, Glencoe, Illinois

As a nature lover and artist I somehow never imagined that I would be called upon to defend birds, bees, and young people.

I specifically remember as a child in Milwaukee, the songs of meadowlarks and killdeer coming through the open classroom window, and that the air had especially wonderful smells as I walked home from school.

Today I find myself as a PTA mother involved in discussions about the need for alert systems to limit outdoor play at schools and nurseries during the periods of air pollution.

I worry that most of this generation of children won't even know what the earth should be like.

I agree that caution must be taken when preparing information for children, but our students accepted what was told to them and seem to be almost the only ones willing to act upon this information.

Our many contacts show the students to be the initiators and the backbone for a majority of recycling centers across the country.

Most of the soap phosphate level charts used across the country originated at Northwestern University where they had been prepared by volunteer students.

When I was first moved to action in 1970, I organized an environmental group in Glencoe. We determined we would try to make changes right in the home. We prepared a two-page list for Earth Day of ways a citizen could help. It was the teachers who checked the information, the PTA that funded the printing, and the students who passed it out.

For that same day, the PTA held their annual meeting. It was an outstanding program of experts who spoke on pollution and over-population, a new subject for the PTA. This program was planned with considerable assistance from school board members.

Shortly thereafter the National PTA added environmental concern to its platform. Several members from Glencoe helped in its formation. As you will see it is very strong and leaves no doubt as to the areas for operation.

WHAT PTA'S CAN DO --

Have the health chairman recruit a special committee on physical conditions on environmental problems.

The committee might --

Get acquainted with the community agencies responsible for environmental protection -- health department planning board, conservation commission, zoning commission, special committees of the city council, and the like.

Find out and publicize the community's regulations on maintenance of property and sidewalks, disposal of refuse, use of incinerators and the like.

For each block in the school attendance area organize a committee to maintain standards and promote improvements on the block.

Tour the area periodically to see where improvements are needed. Tactfully call owner's attention to neglect or deterioration and offer help and encouragement on improvements.

Build pride in the neighborhood and concern for its quality -- for example, sponsor clean-up and spruce-up weeks and contests for tasteful holiday decorations.

Arrange for garden and lawn clinics and workshops on home repairs and renovation.

Note: For the following activities, other committies might be called upon as needed.

Utilize and capitalize on youth's deepening concern over the quality of the environment. If students in your high school have formed anti-pollution and conservation clubs, encourage and support them. Invite youth to participate in your PTA's projects to protect and improve the environment.

Involve elementary school children in anti-littering campaigns and neighborhood beautification projects.

Hold a teach-in on environmental problems wuch as air, water, and soil pollution; beach erosion, zoning; rat control; noise control; refuse collection; and the like. Involve students in the planning and the program. It's a natural for a PTSA.

Be alert to maintain natural preserves and open spaces. Rally public opinion to investigate attempts to take over natural resources and recreation areas by industry, highways, or airports, and if they are not in the best interests of the community to oppose them.

Urge that schools include study of environmental problems and ecology in appropriate places in the curriculum and also that they support outdoor education programs.

Create awareness of the over-population problem and work with other community groups to make family planning help readily available.

Support legislation and appropriations for environmental health - abatement of air, water, and soil pollution; noise and rat control; refuse collection; and so on.

Needless to say, when I was offered the post of Environmental Affairs Chairman, I accepted. It has been a lot of backache and heartache but most of all pleasure and satisfaction.

The PTA, the students and the teachers have collected hundreds of signatures, for petitions about airplane noise, for bone centers for abused children, for a village operated recycling center and about the dangers of atomic powered generating stations. We've written letters, sorted and lifted 200,000 pounds of glass, stacked 600 tons of newspapers, flattened cans, written and distributed literature, made posters, talked to glass manufactures, trucking companies, paper companies, written to scientists and professors in many states, exchanged information with many many ecology groups around the country and submitted volumes to the Glencoe village trustees.

The students come to endless meetings and generally perform miracles in places where they sometimes can't spell the words.

They have been tireless in their support of the recycling center, completing all the work, seven days a week since it opened.

It has been a delightful affair to go to the village board meeting in a rage and find the hall packed with students of every age and size. They say dreamy polite things to the trustees and make real press and I sometimes am able to leave without having had to open my mouth.

It has been reassuring to get help from a local gas station owner, who lent us his property and his bodily efforts for a year and a half while we convinced the village that recycling was a real thing.

We had backing from the League of Women voters who conducted a study and reached a verdict in favor of recycling.

And we have even had the benefit of the presence of our Superintendent of schools one evening at a village board meeting. He lent visible support to the Student Council's position.

Dr. Young has been the hidden strength behind us all. We were many who were waiting to be united, teachers, students, and citizens, each finally able to lend a hand to the other's direction. The PTA of course never played a leading role to the students, but always a supportive one.

We've used up two of the ten years Paul Ehrlich gave us to straighten things out. But I figure Peter will be of voting age in five and I plan to run him and the rest of his pals for some important governing body.

One can't have this experience without gaining a good feeling about oneself and friends and our ability to work within the system for change.

I know there is hope for the Old Earth yet and I know that the village of Glencoe will never again look upon a group of petitioning students as children who can be excluded from policy making in their home town.

I will be glad to provide material or information to anyone who wants to start a better way.

Some day I hope our groups can joing to show an impressive front as we have in Glencoe for the last two years.

"Integrating Environmental Education Into The
Elementary School Instructional Program"
Mr. Marvin Martin, Sixth Grade Teacher,
South School, Glencoe, Illinois

Ecological understandings and related social concepts are threads which should be woven throughout the elementary school curriculum. Teachers who recognize ecological problems as threats to the quality of man's existence and, in fact, to his physical survival cannot help but have their educational philosophy and their teaching goals affected by this recognition. Once creative teachers feel the urgency to aid children in developing attitudes and understandings which can help to affect their survival, there will be no problem of finding ways to incorporate environmental education within the curriculum in all subject areas at all grade levels.

The Glencoe Environmental Education Curriculum aims at the development of environmental consciousness and social responsiblity. It is a kindergarten through eighth grade curriculum. It is not intended to be taught as a separate curriculum. Instead the effort has been to identify certain basic generalizations which can be drawn from existing science and social studies curricula at all grade levels. Those generalizations are:

1. All organisms are interdependent.
2. The existence of life is dependent upon certain physical requirements.
3. The demand for life's resources is unlimited but the supply of resources is limited, resulting in competition among living organisms for the essentials of life.
4. All organisms are physically and behaviorally adapted to their environments.

5. Environmental resources are recycled.
6. Reproduction is essential for the perpetuation of the species.
7. Optimal population size within a living community is that number which will perpetuate a species without threatening the survival of other species and without damaging the physical environment.
8. Man, more than any other species, has disrupted the ecosystem, yet man alone possesses the ability to reason, enabling him to comprehend his role within the ecosystem and to alter his destructive behavior.

Through their studies of physical, biological, and social sciences, children will deal again and again with these generalizations. They will develop ecological understandings and related social concepts. They will approach environmental problems through reflective thinking and problem solving. Their scientific background will help them to understand the interrelationships between organisms and their environment. They will see the impact that man and his technology has had upon the environment. Through the social studies, they will give further attention to man's uses and misuses of environmental resources, the effect of population strain upon the environment, and the relationships between the rights and the needs of the individual and the common good. They will learn how man is able to live more nearly in harmony with the environment and how man can bring about changes in values and life styles which can reverse the trend toward environmental destruction.

The 6-8 curriculum was adopted about a year ago. The K-5 curriculum is still in preparation but will be ready very soon. At each grade level it is organized into six parts:

1) The basic generalizations mentioned above;
2) Related ecological understandings;
3) Related social concepts;
4) Correlations with the existing science curriculum,
5) Correlations with the existing social studies curriculum;
6) Suggested activities and resources.

The Glencoe Environmental Education Curriculum is a pioneering effort which has received a good deal of interest and attention from other communities which are involved in developing curricula of their own.

"Environmental Education Programs in Selected DuPage County Public Schools" - Mr. Everett McLean, Director of Outdoor Education, Glen Ellyn, Illinois

During the past decade two expressions have become increasingly used by educators throughout the country. These two are the expressions, Outdoor Education and Environmental Education. Each needs some defining to bring it into perspective in todays educational scene.

As you see by this slide the expression outdoor education denotes a broad concept. An umbrella, that covers all of education outside and beyond the four walls of the traditional classroom. It refers to a method by which students are involved in direct/first hand learning experiences and a media which includes all of the resources that can be marshalled in the greatest library of them all, the out - of - doors.

Supporting the umbrella called outdoor education are many important programs. Outdoor teacher education, day field trip centers, foreigh study, Christian education, programs to develop the total school site, school site use, community resource use, resident outdoor education, environmental education, recreational lifetime interests, farm animal programs, and others.

As assuredly as all support the expression "Outdoor Education," so do they rest firmly upon the solid foundations of academic education. Science, mathematics, language arts, social studies, physical education, industrial arts, music, and art.

If, for example, a science teacher visits a stream and the local sewage treatment plant to develop concepts relating to pollution problems and ecology - then science becomes outdoor environmental education.

If, for example, a language arts and social studies teacher take their classes to the Morton Arboretum, investigate the impact of increasing populations on the biotic habitats, discuss the noise pollution resulting from a nearby expressway, and then retire to a secluded pine plantation to express their thoughts through Hiku poetry - then language arts becomes outdoor environmental education.

It is with these points of reference in mind that I report on the status of environmental education programs in DuPage County.

Introduction

1. In the United States today, we are witnessing a cultural revolution. For the first time in our history, our people are becoming concerned with the deteriorating quality of the environment in which they are forced to live.

2. We are rapidly approaching a crisis -- not the "quiet crisis" about which former secretary of the interior Udall wrote -- but a noisy, clamoring crisis in which men will struggle for space in which to live, air fit to breathe, and water fit to drink.

3. As in all social crises of the past, the American people have turned to education for solutions.

4. Yet for a variety of reasons education in America is not adequately prepared to offer solutions. Although our heritage as a nation is closely bound to the outdoors -- to the soil and the natural environment -- our educational system does not reflect this tie.

5. Where the environment has been studied, man has seldom been considered as a part of it.

6. In developing a method of educating for environmental quality, let us make one major assumption. If man is the only living thing which can consciously transform, manipulate, control, preserve or destroy his environment — then a knowledge of how he affects his environment and even more important, the consequences of his actions should be an essential element of human understanding.

7. What we are talking about, then, is a new kind of education. It is education which develops in man a recognition of his inter-dependency with all of life and a recognition of his responsibility to maintain the environment in a manner fit for life and for living.

   The first part of environmental education involves the development of understanding; the second, a development of attitudes - a conservation ethic, one which promotes stewardship for life and for the land.

8. Obviously the most efficient laboratory for experiences in search of meaning in the environment is the environment itself.

   Yet, in most schools every element of the school facility but the surrounding environment is used. Our teachers are trained to use textbooks, guides, machines, multi-media equipment and indoor laboratories - but seldom th real laboratory just outside the school, beyond the four walls of the traditional classroom.

   In most schools, the teacher is discoraged from using the surroundings as a laboratory for direct meaningful study.

   She can make T.N.T. in the laboratory and be fully covered by insurance if the school disintergrates. No parental permission is required. Yet, if she wants to ake her class outside, she needs parental permission, administrative sanction, and insurance against injury. Is it any wonder the average American knows little about his environment?

9. This brings us to the question - what's happening with environmental education programs in DuPage County?

College and University Level

A person needs only to thumb through a course offering catalog to see the increasing trend to involve students through direct experience with many facets of their academic training.

1. Students, both graduate and undergraduate, are becoming involved as:

   a. Interns with county and city planning directors

   b. Part-time working associates with business and law firms

   c. Consultants to urban, suburban, and rural small business associations

   d. Members and consultants on environmental commissions and protection agencies - and

   e. As students on foreign study programs - just to mention a few.

2. Summer programs, long recognized by geologists, engineers, biologists, and ecologists as having significant educational impact are increasing.

   a. Trips that take the student for extended classroom periods away from the traditional centers of academic learning are filling the needs that cannot be met through vicarious teaching.

3. Increasing recognition is being given by universities and colleges to the academic impact that the environment has on the education of the individual.

   Experience has shown that when direct personal experience with our environment is combined with academic study, it allows the student to develop real and meaningful concepts which enable him to rise to higher levels of abstract thinking.

4. Let's take for example the Vanguard program offered by Wheaton College.

   a. It is offered to incoming freshmen

   b. It gives each an opportunity for self-discovery through physical testing and mental conditioning.

   c. It includes a three day solo, alone, without food, in the wilds of upper Minnesota.

   d. It allows each student to recognize his own weaknesses and to realize that growth comes through stress education.

5. One student summed up his outdoor education experience with the vastness of the environment in this way.

   "Instead of a fun filled vacation, the Vanguard experience was one of growth - growth in my relationship to others, growth in the knowledge of myself, and growth in the understanding of my God."

6. Dr. Hudson Armerding, President of Wheaton College spoke of the program in this way.

> "We sense the need for mature Christian leaders and have become aware of the success that similar Outward Bound Schools have in the development of such potential."

Wheaton and Glen Ellyn High School Districts report similar environmental education programs.

1. Environmental education courses are available but reach only limited numbers of students.

2. Courses now being offered are generally more descriptive than perscriptive.

3. New courses being considered are primarily problem oriented.

4. Local field study sites are being used. Classes are moving to:

   a. The school site
   b. The nearby forest preserves
   c. City parks
   d. The local community itself
   e. And to lakes and ponds at regular year-round intervals

5. Extended school year and summer field studies bring students for direct experience to:

   a. State fish hatcheries
   b. Horicon Wildlife Refuge
   c. Ponds, marshes, and streams
   d. Disposal plants
   e. And many other study areas where comparisons can be made to show environmental degredation as well as possible solutions to impending problems

6. Science and ecology club members are involved with:

   a. Recycling of paper and glass
   b. Obtaining speakers to discuss
      (1) County and community planning
      (2) The pollution crisis
      (3) Planned parenthood
      (4) Impending changes in life styles
      (5) Etc.

7. Administrators and teachers are cooperating increasingly with local civic organizations to obtain scholarships for students to attend conservation workshops currently being offered at:

   a. Southern
   b. Western
   c. Northern Illinois University and the
   d. Rockford Outdoor Education Center

8. Teachers and administrators are increasingly encouraging and giving credit to students who attend state, county, and local environmental meetings - as well as those who actively participate with members of village or community environmental protection commissions.

9. Teachers and administrators concerned with the impending environmental crisis felt that education to be relevant and meaningful for the 70's and 80's must get kids into direct contact and involvement with problems.

   a. In the rural, suburban, and urban communities.
   b. In working, studying, and contributing to environmental improvement in city parks, and county forest preserves.

10. These educators also realize that if a conservation ethic is to be developed, one in which the life style of the person reflects a deep stewardship for the future of mankind and the environment he must inherit, - it must become interdisciplinary in nature, integrating into all facets of the existing academic disciplines and cutting across all levels of public education.

Wheaton Elementary District reports the following:

1. An Environmental Education Committee has recently been formed. Its efforts are directed toward initiating environmental education activities.

2. At present there is no coordinated environmental or outdoor education program.

3. A recent 2½ day resident program was completed by select junior high students. Its curriculum developed out of the social studies program - "Study of American Problems."

4. Resource people such as conservation officers, county planners, and naturalists, aided teachers in planning and executing the program.

5. Other junior high classes are visiting nearby industries to determine their affect on environmental quality, specific study assignments deal with:

a. Manufacturing and shipping
b. Research and development
c. Labor and management
d. And, environmental control aspects such as:
   (1) Air and water pollution
   (2) Sound control
   (3) Transportation impact
   (4) Neighborhood appearance and economic contribution

Lombard Elementary District 44 reports the following:

1. District 44 does have a directed Outdoor Environmental Education program.

2. It is coordinated by Pat Saunders for grades K-6.

3. It is a program that teachers voluntarily subscribe to. It is basicly organized as follows:

   a. Grades K - 1 - 2 concentrate on school site walking; Observing, smelling, listening, feeling, and tasting where possible. It is aimed at developing appreciation for school property, animals, flowers, and the immediate environment. If the school site has relatively little to offer, nearby city parks within walking distance are used. Individual teachers through their own efforts or in cooperation with Mr. Saunders are planting at school sites, bulbs, seeds and mini-gardens.

   b. Grades 3 - 4 - 5, concentrate on one bus field-study trip each year, for each teacher, at each grade level. Trips are made to forest preserves, arboretums and nature centers. Each trip centers around a theme such as:

      (1) Animals in winter
      (2) Winter trees
      (3) Spring flowers
      (4) Geology
      (5) Weather
      (6) Ponds and streams

      Field study sheets, outlines for data collecting, and equipment for student use are utilized to develop the outdoor curriculum.

   c. Grade 6 concentrates on a residence, educational experience for each child. This resident program is carried out at Camp Alpine, a Lutheran church camp. Its basic purpose is to reach facets of the existing district 44 educational program that are difficult or nearly impossible to teach when confined to the traditional classroom.

The curriculum for the resident program is developed to include a maximum amount of teaching in the out-of-doors. Facets of it include:

(1) Studies of the interrelationships of plants and animals in our environment
(2) Developing math concepts through indirect measurements, geometric design, and survey mapping
(3) Using compass and map to understand topographic symbols
(4) Sampling and making analysis of soils
(5) Studying the geology of the area
(6) Becoming knowledgeable about the use of plant, tree, and flower identification guides

Aside from the academic benefits derived for the extended periods of instruction that teachers and resource people have had with students - are those social factors that teachers and students living together seem to develop. The interreaction that give teachers a chance to see students as individuals and the awareness by students that teachers are a lot more that talk, and human after all; are salient features that help develop positive attitudes among themselves - and positive attitudes toward education.

4. Teacher Training, an important facet of any environmental education program, is taking place at nearby colleges, universities, arboretums, - in cooperation with forest preserve districts, and through the office of county superintendent - Merrill Gates - not just for Lombard alone, but by concerned teachers and administrators from Wheaton, Glen Ellyn, West Chicago, Naperville, and other surrounding communities.

Glen Ellyn District 41 reports similar involvement at both upper and lower elementary levels.

1. The status of outdoor education in District 41 has been, from its initial inception in 1967 to the present year, one of progress, increased teacher participation, and extended program development.

2. During the years 1968-69-70 more than 65% of our teachers in District 41 enrolled in graduate outdoor education classes. Classes designed to enable our teachers to understand the philosophy and scope of outdoor education, as well as, learn new methods for developing new proficiencies for teaching and conducting classes out-of-doors.

3. From these graduate classes developed a philosophy which has continued to guide the development of the outdoor education program for District 41. It can be briefly stated:

"As we see it, outdoor education takes on the role of any discipline in which teacher and student are involved in direct, first-hand, purposeful, curriculum related, multi-senary, learning experiences beyond the four walls of the traditional classroom. As such it applies to all levels of learning, and all levels of instruction."

4. The scope of outdoor education in District 41 embraces four large instructional areas.

   a. The school site and its immediate surroundings. This might include -- short excursions by the teacher to point out some erosion or weathering problem, to collect native plant materials for dye craft activities, to plant trees for Arbor Day, to examine a catch basin described in a classroom story, or to become involved with her students in a compass orienteering activity on the playground blacktop.

   b. The community with its wealth of resources. Trips to these areas are usually within walking and bicycling distance but sometimes reached by bus. -- The Fire Department, the local bakery, the bank, vacant lots, city parks, bird sanctuaries, wild flower areas, ponds and marshes, sewage treatment plants, and homes of parents and retired citizens whose hobbies stimulate and make relevant many vicariously taught curricular offerings.

   c. Resources out and beyond our local community. The county court, colleges, industries, arboretums, airports, transportation and communication centers, glacial peat bogs, hunting fossils, visiting a coal mine, a nuclear generating plant, studying glacial topography, participating in archaeological digs with nearby colleges, visiting farms and rural communities.

   d. The resident outdoor education center. Not yet a reality for students in District 41, but ultimately a most important part of a District program that is aimed at developing quality education and environmental awareness.

5. One of the prime cohesive elements of District 41's outdoor education program is its building representatives.

   These teachers represent every grade level in District 41 and are perhaps the most knowledgeable committee of teachers concerning the philosophy and methods of outdoor education that can be found in any school district in Northern Illinois.

   The major efforts of this committee for the past four years have been directed toward:

   a. Evaluating outdoor education programs to determine the proper kind for District 41

b. Developing a board proposal for a resident outdoor environmental education center including its location and curriculum.

c. Developing an individual building plan and proposal for total school site development as outdoor learning environmental laboratories -- including site additions, site modifications, and site plantings.

d. Planning, piloting, and evaluating a K-2 farm animal -- farm garden program for all students in District 41.

6. Additional materials produced by the efforts and recommendations of our committee -- designed to promote outdoor environmental education, are uniquely worthy of recognition.

a. A rationale: Why should a school district develop its school sites as learning environments?

b. Teacher views and recommendations for school site development.

c. Procurement of additional liability insurance coverage to include and cover all staff, all student teachers, para-professionals, and parent aides in any way, any where, and in any vehicle -- out and beyond the four walls of the traditional classroom.

7. Glen Ellyn District 41 has also has, for the past six years, an an outdoor environmental education summer program.

Its curriculum is developed around eight conceptual areas:

a. Fossils and geologic time
b. Orienteering -- map and compass use out-of-doors
c. Historical people's of Northeastern Illinois
d. Pollution problems relating to stream and pond ecology
e. Industries and occupations
f. Native art, crafts, pottery and ceramics
g. Courts and civic agencies
h. Transportation and communications

Its staff includes certified classroom teachers, college elementary education majors, student teachers, and select volunteer high school students.

Its classrooms are deliberately planned two and three days away from school, for learning by direct/first hand experience in the out-of-doors.

It has been successfully evaluated by universities, teachers, parents and students.

Its goals are simple and have remained the same since its inception:

a. To develop an appreciation of the out-of-doors.

b. To create awareness to the value of close observation.

c. To stimulate creativity - vocal, written, and manual.

d. To manifest a desire on the part of the student to learn as a result of self-motivation.

e. To aid students in developing library research and related study skills.

As a parent vividly put it:

"Thank you for opening so many doors for our son. I haven't seen him so excited by school learning since kindergarten. He's always been a reader, a student on his own, but his lackadaisical attitude in school often left me frantic and yet I understood. School bored me too. But not so outdoor education! We've learned a great deal from his sharing everyday experiences with us. I wish there could have been one opportunity for parents to share informally a bit of what's going on with the teachers, for feedback in both directions.

It's been a short month for Mark and us. Thank you for your interest in bringing more of the world alive for kids."

Conclusion

Ladies and gentlemen - I rest my case for environmental and outdoor education. In the decade to come, environmental and outdoor education will become a reality in schools throughout DuPage County. The school as a central agency in the lives of children knows that attention must be given to man's relationship with nature and his struggle to live in harmony with it. In communities that serve for

excellence, a well planned program of environmental and outdoor education is not an optional matter but a necessity if a high standard of living is to be maintained. We cannot change what has happened. We can only begin to right those mistakes and omissions.

This then -- is the challenge to you and your convictions.

"A School Administrator Helps Faculty Develop
An Environmental Instructional Program."
Miss Gretchen Collins, Assistant Principal
Upper School, Glencoe Illinois

The school administrator referred to in the title of my talk is Dr. Charles Young, superintendent of the Glencoe Public Schools. It is he who provided the leadership to help our faculty develop an environmental instructional program. The program itself will be described by our next speaker, a Glencoe teacher, Mr. Marvin Martin. My role tonight will be to describe how our program developed.

The need for it was demonstrated to me one wintry day by a kindergarten child and her third grade sister. As they entered school one snowy morning, the kindergartener asked, "What is the snow made of?" "Rain that is frozen," her sister replied. Kindergartner, "What is rain made of?" was the next question. Third grader - "Water, silly." Kindergartner - "What is water made of? Oh, never mind, I know - pollution."

Glencoe is a suburban North Shore community, rather like Wheaton. It has a population of about 11,000, 2,000 of whom attend our four public schools. One of the four, Central School, includes 500 seventh-eighth graders for whom I am responsible. One of our ecology minded eighth graders, and President of Student Council, Peter Howell, is here tonight to tell you what our Upper School students have accomplished with the help of the PTA, represented by Mrs. Hart.

The Glencoe Public Schools are very fortunate to work with a community that is supportive of its school system and very receptive to new ideas. A former School Board President, John Clay, was an early advocate of environmental education, and through constant encouragement, dedication,

and information, urged the Board, staff, and community to become actively involved.

For the past four years the Board has provided motivation and financial aid to staff members to assist them in becoming knowledgeable in environmental education and to create an environmental curriculum.

In 1969, Dr. Charles Young, our superintendent, requested our Curriculum Council to make a formal study to determine the school's role in environmental education. A nine member task force, called the Environmental Steering Committee, was created; it included faculty members from different grade levels, schools, and subject areas. They recommended an interdisciplinary approach, a "systematic provision for examining the social, economic, political, and technological origins of the environmental problems as well as the alternatives for reversing environmental breakdown. They did not want the work to be done piecemeal but agreed on bringing understandings in the different disciplines together. They wanted children to study the many sides of the ecological problems.

To write a curriculum guide starting in 6, 7, 8th grades, three faculty members were selected because of their intense interest, knowledge of science and social studies, and their creativity. They worked during the summer of 1970 to develop the Environmental Curriculum Guide, which will be discussed by Marvin Martin. This was presented to the faculty in a half-Day Institute.

The following summer five faculty members were employed to write the Lower School Curriculum Guide. The completed Guide was prsented to the School Board and teachers in two in-service meetings.

Meanwhile, teachers, Board, and interested Community members studied the environmental materials being produced nationally. They read widely

articles being written by leading biological scientists. The Board brought outstanding environmentalists such as Carnow, Commoner, Erlich to speak to the faculty and PTA.

The School District encouraged and financed the staff's attendance at significant meetings. Two teachers participated in a 4-5 day workshop on population education at Annapolis, Maryland. One went to AAAS' two-day workshop in St. Louis.

In June, 1970, the Glencoe School District became affiliated with the National Congress on Optimum Population and Environment.

To create students' interest, creative activities were carefully planned by teachers and children with the help of the PTA and town merchants on Earth Day. The PTA's in our schools and the Board heard and saw a colorful audio-visual program on the environmental questions presented by Marvin Martin.

The PTA established an Environmental Affairs Chairmanship, and Mrs. Hart became the first chairman.

In the spring of 1970, Glencoe School District No. 35 joined with DeKalb's Public School District No. 428 and with Northern Illinois University presented to the Office of Education a proposal nicknamed HEEP - Human Ecological Education Project - under the direction of Dr. Joseph Ellis, Northern Illinois Educational Research and Services. The project's main concern was to emphasize the principal part of the environmental problem: the relationship of human population to the total environment - how to establish and maintain a balance among people, their life-styles or culture, and the resources available. HEEP was to identify, develop and provide environmental

educational material and training activities to use with 1) students K-12; 2) in-service and pre-service teachers; 3) community leaders, and 4) interested professionals other than educators. The project was endorsed by such people as William Scott, Attorney-General; Mr. Morris, Village Manager in Glencoe; Mr. Johnson, Director of Glencoe Parks and Recreation; Mr. Carnow, Professor at Northern Illinois University. However, the proposal was turned down.

My own part in the educational program has been as Head of Upper School (7-8th grades) to sponsor the Student Council in their efforts and to bring Student Council and PTA together in community projects. For two years both organizations have influenced the citizens and Village Board of Glencoe accept responsibility for worthwhile projects. In the school and town our students have led the way. Peter Howell, the president of our 7-8th Student Council, an elected body of thirty students, will describe the way we have implemented our Environmental Education program with the help of Mrs. Hart, who has worked constantly for the past two years to involve citizens of all age levels within the town.

If anything is unique about Glencoe's environmental plan, it is the involvement of everyone from School Board President, Superintendent and Faculty to Village Boards, PTA, and young citizens, to develop a better environment.

"Student Action And Reaction To School's Environmental Education Program" - Mr. Peter Howell, President of Student Council, Glencoe, Illinois

Students at Central have become involved in solutions to environmental problems. I attribute this to a few factors. First of all we have to know what's going on, and what the problems are. We must know the scientific knowledge behind the problems before we ever hope to work on solutions! Our knowledge of the problems has led the way.

From the knowledge of these problems, we have felt that recycling is the best solution. The very thought of recycling - restoring nature's balance, attracts me. But recycling is more of that. It is re-using waste materials such as glass, paper, aluminum, tin, and cardboard.

Perhaps the most important factor that has led the way for student involvement has been the PTA. Without them we couldn't have done what we did. Tney have advised us and worked with us. It has been a real example of parents and students sitting down and working together.

As I have said, recycling has been a main concern of students. We have put the concern into action. Students, with parents, proposed the establishment of a recycling center.

October 14, 1970, I presented the idea of a glass pick-up service every 3-4 weeks.

October 25, 1970, Mrs. Haft came from PTA to talk about organizing a glass recycling drive. She had located a place in town. '76 gas

station volunteered a lot. I volunteered to talk to the Glencoe News about publicity on it. A poster committee of volunteers was set up. Posters were to be placed uptown. Other Student Councils in our schools were contacted. A student agreed to notify the police of the drive. A house to house pick-up of glass was planned.

November 7, 1970, Glass collection assignment sheets were distributed to workers: Petitions for a permanent recycling place in Glencoe were signed by 366 citizens at the site or at the Village Board Meeting. On November 8, 1970, Student Council received a congratulatory letter from Mrs. Hart. $47.85 made on first drive.

January 9, 1971, 71 students helped put over second glass drive - 34,000 pounds collected - worth $340.00. We paid for trucking.

February 12, 1971, Custodians Day. 238 of 500 students volunteered to participate in cleaning up the school.

March 8, 1971, Containers for glass set up at school.

March 20, 1971, Third Glass Collection 11 tons.

April 14, 1971, The Village agrees to have a pilot project with glass.

June 12, 1971 - Can Drive.

October 26, 1971, Benefit show with bottles for admission. Drama class put on a skit. Film on pollution.

November 6, 1971, Village Board Council, having studied the pilot project for many months, unanimously decided to recommend to the Village Board continuing recycling on a permanent basis. I urged students to attend next Village Board meeting.

January 10, 1972, New recycling site. Continuing publicity.

February 14, 1972, Students given directions on safety at site (goggles, gloves) and on how to sort, take off metal bands, separate glass, stack papers. Each class asked to save used paper in box in their room.

Our present activities include environmental controls such as studies on compost, biological insecticides, and consumer affairs. We are also working on the promotion of lunch boxes instead of paper bags, We hope to put all these ideas into one week, which we would title Earth Week. We are also planning a can and aluminum drive for May 20.

As of now, our recycling center does not include cans and aluminum. We want to prove to the Village that can and aluminum should be a part of the center.

I think it is only fair of me to tell about some of the problems we've had, because we have encountered them.

One problem that we've had is the Village. Although the Village Board is very interested in recycling, the actual administrators of the Board's policies have not been too enthusiastic about recycling. We've tried, though, to iron out the difficulties when they arise.

The other problem we've had is student apathy. Although there has been a large minority of students involved in recycling, there are many who just don't care. We are continually fighting apathy. We have declared PHASE II, which is the phase in which we tried for more student awareness and involvement in the environmental problems.

I hope that we can continue our concern for the environment, and its problems. I hope we don't die out and label it another crusade. We've got to keep working on solutions.

We students have felt a feeling of accomplishment. We have worked through our government to find solutions to our problems. It has been a political experience, fighting for a cause, when you have organized oppostion. But we have stood the test. We have to keep going, keep fighting for solutions.

The key to success in solving the problems of the environment include two things. First of all, we must be aware of what the problems really are, then we must implement that knowledge with action, i.e. involvement. If we can keep aware and involved in environmental problems, we're going to get things changed.

We students live in an adult world. When involved in politics, we are usually up against adults and sometimes their superior knowledge. We've got to get together with adults of all ages, and organize. Once organized we can begin to work through our government to establish a recycling center.

Become aware, get involved, and organize. That is my advice.

"Cultural Factors In Maintaining Environmental Quality" - Mr. Gunner Peterson, Director, Open Lands Project, Chicago, Illinois

Earth Day two years ago focused attention on the environmental degradation the world was suffering. Stimulated by student concern, it brought vividly to the minds of Americans that we were in trouble, not only as a nation, but that the world's natural heritage was in danger.

Youth has recognized that its own survival is in jeopardy, and has reacted. To some, it's "So what?" Others say, "Let's do something about it," and others fatalistically say, "It's already too late." Other older citizens have reacted in much the same way, and some have said, "We're sick and tired of hearing about ecology and the environment. What can you do anyway?"

At the same time, many are saying with justification, "Who can you trust? Let's get all the pleasure out of life we can, this is all there is. Let's get ours. And the hell with the future." It has led to a disenchantment with the leadership, the political process, industry, the policy-makers, the technicians, the market place, the church, the institutions and big business. So we see the emphasis on doing your own thing, the rejection of previously held values, the mistrust of a system that leads to war, violence, poverty, racial inequalities, and pollution, a breakdown of faith and trust.

The return to simplicity, the seeking out of mutual souls in communes, the finding of a way of life that is satisfying in the counter-culture--these are important and may be among the methods for reaching

a solution for many. It may indeed point the way for others disheartened by the rat race for survival, who are groping for answers. They may provide some clues to a lifestyle for the future.

This is one aspect of "Blueprint for Survival," the report of 33 English scientists recently printed in the "Ecologist." Stressing as it does the necessity for a stable society, declining population, decentralized living, and control of resources, it is understandably controversial because it proposes a reversal of the usual bigger and better philosophy pursued for so long in our industrial society.

> The principal defect of the industrial way of life with its ethos of expansion is that it is not sustainable. Its termination within the lifetime of someone born today is inevitable--unless it continues to be sustained for a while longer by an entrenched minority at the cost of imposing great suffering on the rest of mankind. We can be certain, however, that sooner or later it will end (only the precise time and circumstances are in doubt), and that it will do so in one of two ways: either against our will, in a succession of famines, epidemics, social crises and wars; or because we want it to--because we wish to create a society which will not impose hardship and cruelty upon our children-in a succession of thoughtful, humane and measured changes.

While it is essentially a British statement, it has world-wide implications and is pertinent to our concerns.

Identifying the collapse of society, the report says:

> The developed nations consume such disproportionate amounts of protein, raw materials and fuel that unless they considerably reduce their consumption there is no hope of the undeveloped nations markedly improving their standards of living. This vast differential is a cause of much and growing discontent, made worse by our attempts at cultural uniformity on behalf of an expanding market economy. In the end, we are altering people's aspirations without providing the means for them to be satisfied.

Not only is this true at the world level but it also has implications for our own country and the cultural uniformity promoted by the media for continued growth.

In the belief that economic expansion is essential for survival, progress, ans well-being, governments so far have refused to look to other solutions. Hopefully, continuing consideration will be given in Britain, in the United States, and elsewhere, including the Stockholm United Nations Conference, to the proposals in "Blueprint for Survival" that may be a means of bringing peace and fulfillment to the world.

Another recent publication, "The Limits to Growth," written for the Club of Rome, by Dr. Meadows at MIT, spells out the problems we face in the world--identifying population, pollution, and non-renewable resources as the major ones--this is sometimes referred to bombs, babies, and bulldozers. Using computer technology, it provides a model of exponential growth that can only lead to disaster unless we take immediate steps to correct the world situation. It, too, calls for a reordering or priorities and describes the limits of growth within which man can continue to function on the planet. It proposes further study of attitudes and reactions that may bear on the choices we have.

While I am not personally enamoured of computer technology, if it can provide some useful answers to our problems, let's use it, remembering, however, the GIGO Principal, (Garbage In - Garbage Out) that sets some limits for its effectiveness.

Because survival as a planet is involved, we may finally have come to the time in the world when we must look to the issues in the

environmental crisis. Granted the undeveloped countries have a long way to go in achieving the "good standard of life" of the developed nations, and are willing to accept the pollution of and the degradation of the environment to get there, the world family of nations bears the responsibility of assisting development without any major disruption of the life-supporting ecological systems upon which we all depend.

We recognize the need for an adequate standard of living for the world's citizens, and many of us are willing to see a decrease in our own to accomplish this. Quality of life is not necessarily related to standard of living, and it is quality that is the most important. Moral and social progress, a sense of world wide community, global awareness must come if we are to survive in the world, just as it must also come at the local level if we are to survive as a community, state and nation.

As advocates for environmental responsibility, an aroused citizenry can be effective in bringing about change. In our country, William D. Ruckleshaus, Administrator of the Environmental Protection Agency has identified that citizen demands have pressed government to listen, and that the questions raised about personal and corporate actions can no longer be dismissed as those of "eco-nuts." As he put it, "The environmental movement is largely a coalition of citizen-volunteers, who aspire less to bringing down the Walls of Jericho than to saving us from bondage to Babylon."

Citizen involvement in environmental affairs at all levels of society must be encouraged and stimulated. Information must be freely available, simplified from the technical jargon for more common

understanding, opportunities for free discussion of the alternatives must be provided. Becoming a vital part of the decision-making process is a necessity--only then can citizens share in the pride of achievement.

In this regard we must take pride in the achievement of the Oak Park and River Forest High School, Pollution Control Center, and students Nancy Stockholm and John Rudzinski, who were recognized yesterday in White House ceremonies when they received Presidential Environmental Merit Awards.

Advocates for the environment, often working as volunteers, must have access to the information on which decisions are being made, and they must be a part of public discussion. Too often dismissed as having no contribution to make, the voluntary efforts have proven effective in forcing reversals of decisions in the courts, in taking direct action by ecotage, and by exerting pressure in the political arena. Funds for citizen groups may need to be provided to make possible effective opposition to programs and policies, and to promote full citizen participation

Hopefully from the U.N. Stockholm Conference on the Environment will emerge a clear undisputed definition of the global problems, some action proposals for solutions, and the readiness to accept the necessary agreed-upon controls for survival. Only as we actively seek out the opinions of the people of the world, develop national, local, and personal priorities for environmental committee, and carry out the necessary education, can we adequately move towards the establishment of Spaceship Earth as the lasting home for mankind.

"Responsibility of Public Schools to Implement An Environmental Education Instructional Program - A Charge" - Dr. Ron Booth, Field Representative For The Northern Region of The Illinois School Boards Association

I am speaking to you tonight with many biases toward environmental problems and solutions - not to offer a cursory pat on the back from the establishment, a role which my title might suggest. By temperament and training I'm a teacher, out of a sense frustration with the educational process, I'm an administrator-consultant. From early training in agriculture, and under-graduate courses in conservation and ecology I developed an early concern for environmental problems. Ten years ago I was one of two local high school teachers testing the BSCS ecology materials, and trying to expound the "green approach" to my peers who wanted to intellectualize on molecules or continue dissecting frogs.

I happen to believe that what's important in education is what's significant for kids and society, not what is stimulating to the intellect of the teacher, so that even with doctoral training in bio-chemistry and micro-biology, I was a "greenie" and opted for process approach based on ecological concepts. My peers didn't buy this, as there was status in being molecular, so they continued to lecture, review, and test in the same old way, but now about molecules instead of body parts, gaining some satisfaction in providing society with a few more potential scientists - an underlying fallacious goal of the entire BSCS program.

My next bias was that you couldn't teach ecology without integrating these concepts into other science programs, or sociology,

political science, economics, etc. Scientists had argues ecology, to little avail, decades before it crept into public school curricula. Until it became a social problem, it had little hope for reorienting societal values, until it became significant to kids it had no possibility of becoming crucial to society (who by the way were once kids in our classes looking for significane in their life and in society - and who I doubt find much significance in molecular structure.) This bias was completely thwarted - we integrated the science program in name but not in fact, and integrating with other departments was thwarted by departmental jealousies, required courses, and restrictive scheduling of kids, rooms and projectors. Most of my peers were happy doing their own thing in their own closed castles, being more concerned with someone else evaluating their "thing" or requiring them to stay after the bell rings, or spending time forming a cocoon around their "thing" thru unionism.

So I took my biases to the university and found in my field a lesser concern with kids and society. The kids provided an excuse for employment and society provided funds. The "thing" became publications and the cocoon was research designed to avoid kids. This was certainly not the place to change society, only to escape from it.

I can't elaborate on my current role - biases - I haven't been as it long enough, but I do know that if we attempt to blame the problems in our schools on society and its elected boards of education, we need to look back to earlier decades when this society and these board members were in our classes, testing concepts, and looking for the significant. We taught them the parts of the frog and the history of

man's wars, and that a good citizen went to college, made money, was frugal, voted, joined a church and civic club. Now we are disturbed because there's a lack of social concern by citizens and less than sympathy for denuded forests and slain seals. Only open minds are socially conscious, we didn't develop them in the school and are employing a double standard if we expect them now.

I have another bias - that the most important ecological organism is man. That ecology has to extend to our most important resource - people. I have been impressed by the programs and ideas presented under tonights banner, but I would further suggest that destruction of the human resource via drugs and narcotics, destruction of groups of people by overpopulation or underproduction of food, destruction of cities by inhuman or negligent urban planning are also significant ecological areas which require curricula and programs in the school - integrative and expansive programs designed to show alternatives are immediately required. Be they biological, economic or political. People living on top of each other, in a crowded city tenement can hardly be expected to show concern over the seal population on the St. Lawrence River or even the 10% increase in water pollutants in Dupage County.

Success in our present society is dominated by affluence and self-protection and can only be altered by concerted political and economic forces. How many of us use lead free gas at 2¢ more per gallon, how many will pay $600 more for a pollution free car? A consumer oriented society will not, so we need to re-evaluate consumer education.

The schools can also act directly in the political arena. Some local school districts are attempting to get the Illinois Legislature to allow a levy for ecology related improvements. A school board in New Jersey won a civil noise pollution suit against a nearby state highway - incidentally using the money to seal the windows and aircondition the building, a practical although not very ecological solution

We can expect the schools to take an active role in initiating environmental programs and changing some priorities to do so, but schools are still responsible to the community. If the community rejects a program, the road is rocky. For example - we can teach about population rates, over-population, and the alternatives, but in our present society we would have myriad problems if we extended the program to explain the use of contraceptives and birth control methods. Present societal values will not allow this extension but if we teach kids to think, not to regurgitate facts, maybe the next generation will accept this role for the school.

My final bias relates to our attack on technology and big business. Science has become the prophet of the present age and technology has put its pronouncements to work. Yet many of our environmentalists have castigated technology for perpetrating this destruction. Society selects its values and goals. It has been the role of technology to bring them into tangible forms.

For example: We can hardly pin the city's problems on technology's ability to build enormous highways. We have to blame the priorities and political process which continue to pour more dollars

into the beehive so that more bees can be added to the hive, which in turn demands more dollars then more bees - on and on developing new ways of packing more ants in an ant hill, and produce the concrete to help the ants continually move

Technology does not innovate or change - it grinds out invention, labor saving devices and profits - and does so routinely. It reflects a societal desire to have or to utilize an environmental component - it may rightly have the obligational to explain its limitations and the ramifications of its progress so that society can re-evaluate what it is receiving in relationship to what it wants - but technology has not or probably never will dictate to the society that created it ala Frankenstein.

We can't blame technology for problems of pollution, cities and disappearing open spaces - society asked for materials goods and had to "eat" the by products. Society must now ask for something else - for technology to focus on humanistic values - with man as the measure.

Hopefully society will ask to abandon the technologies of war and planned obsolescence; to expand the technologies of power generation and agriculture and to modify these effects on the environment; and to ask for new technologies for recycling, harnessing solar energy, desalination and for population control.

A nation that has put man on the moon (for basically political and logistical reasons), developed organ transplants, oral contraceptives and computers, and is now working toward genetic coping of animals, regeneration of organs, contraceptives in food, automated clinical

biochemistry, tactile communication systems--this kind of society if it accepts the responsibility can certainly solve the problems of ecology - both human and environmental - if that society establishes priorities and directs, gajoles, or presses its technology to do so - and is willing to pay the price!

Education and educators may also have to reexamine its process and reassess its priorities to shift from explaining technology (transmitting a culture ala rafferty) to challenging society to ask technology to do something else.

As educators we have a long way to go - we haven't even been able to direct society to making education a top priority and we're losing ground daily - because we're not only insisting on transmitting a culture of decadence, we're digging it in deeper by reluctance to change, to admit to a different pedagogy, to change the role of an educator from a scribe, a propounder of inherent redundant volumes of knowledge to a guide in the process of learning, to hide our fear of change by protecting the weak and incompetent thru the amalgamated "oneness" of mediocrity resulting from unionism on the part of teachers, and to hide behind the inflexible scheduling of kids and the "overkill" of pigeonholing every child and teacher to a place and time on the part of administrators, and to refuse to alter budgets, buildings and yes even buses on the part of school boards to allow for creative and innovative programs - to spend some money for research - to refuse to allow every school building to look like every other tomb - like structure, and unfortunately many children to emerge from our institutions either a "pumped-up, acquiescent mummy or a recalcitrant societal misfit.

Educators have historically developed programs to please themselves, their peers or their superiors for personal well-being or security. Concern for the product or society have been ancillary to self-preservation. That is basically why we transmit culture rather than shift societal values. Educators have been accused of not being accountable - that is accurate only as a failure to report to the public - we have been over accountable - to each other and those who threaten our built-in security and we have withdrawn in concert into our curricular memorablia and mundane administrative trivia.

My charge is simple - we must be accountable to society - not to transmit a culture (television can do that better than you) but to open society to scrutiny to raise questions about societal values, and in the case of our concerns with the environment - forget about the past and raise questions about the future. Offer intellectual options rather than dictate from cultural dogma or anti societal-variant propaganda. In a changing society my solutions - or yours - are no better than anyone else's - can our egos live with that! The answer to restoring the environment is not to either destroy Monsanto Chemical or encourage democracy by defoliation - it is somewhere in-between, to be nurtured by reason and developed by the wisdom of the educator planting alternatives and ideas in the society of the future Ideas and alternatives which are only developed when we become accountable not to tests and scores nor to our own self-preservation but to society and to societies children. When we are willing to take on this responsibility through our product, society will be ready to alter its values, and our prodigious technology can provide the answers. An inflexible, rigid society

results from rigid, inflexible kids nurtured in a rigid, inflexible school - if we're really concerned with the environment we must first look into the mirror. If the concern for changing society is there, it will be reflected back onto those that we teach Only our egos will delay that reflection!

If we really want to develop environmental education programs which will change our value concepts and afford a future flexible, questioning society capable of redirecting our goals and our technology we must first alter all of our priorities in such a way that these programs transcend peer jealousies, administrative control or budgeting restrictions, or any other of our built-in security scapegoats. If those of us concerned with environmental education can effect these changes for our particular, now-popular vested interest, we might even provide some positive osmotic pressure to our colleagues. We might even encourage our "crises in the classroom" critics to stop crying about what's bad in our schools to helping us to find out what should be happening to and for our kids.

That my friends is one heck of a charge.